

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2001-311671

(43)Date of publication of application : 09.11.2001

(51)Int.Cl.

G01L 5/16
G01P 15/18
G01P 15/12
G06F 3/033

(21)Application number : 2000-132012

(71)Applicant : WACOH CORP

(22)Date of filing : 01.05.2000

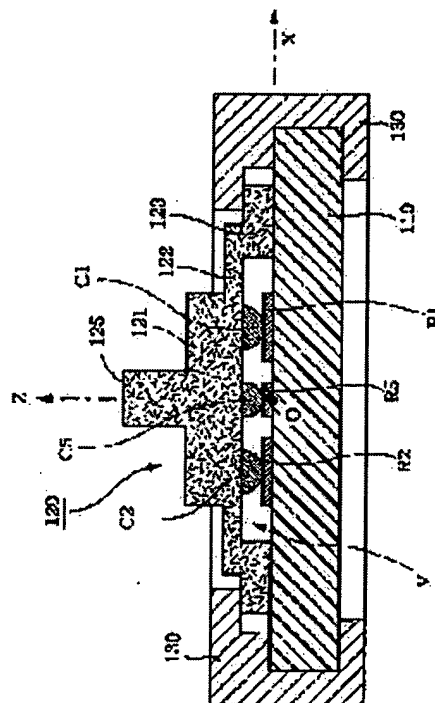
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(54) FORCE-DETECTING ELEMENT AND FORCE SENSOR USING THE SAME

(57)Abstract:

PROBLEM TO BE SOLVED: To detect a force size with a simple structure.

SOLUTION: Resistors R1, R2 and R5 are formed on a substrate 110. A displacement-generating body 120 of an insulating silicone rubber is prepared, and a fixing part 123 at the outer periphery of the generating body 120 is fixed with a fixing member 130 onto the substrate 110. A disk-shaped acting part 121 is supported from the periphery by a thin flexible part 122. Conductors C1, C2 and C5 for contact are formed of a conductive silicon rubber in a bowl form to a lower face of the acting part 21. When a force is applied to an operating rod 125, the acting part 121 is displaced, the contact state between each of the conductors for contact and each of the resistors changes, the contact area changes. Since resistance values at both ends of each resistor decrease the contact area of the conductor for contact, increases, the direction and the size of the acting force and detected from the change of these resistance values.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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